SIC Codes for 40 Industries

#	INDUSTRY	Standard Industrial Classification (SIC) Code(s)
1	Adhesives and Sealants Manufacture	2891
2	Auto and Other Laundries	7211, 7213-7219, 7542
3	Can (metal) Manufacture	3411
4	Dyes and Pigments Manufacture	2865
5	Electronic Components Manufacture	3674, 3679
6	Electroplating	3471
7	Foundries	332, 336
8	Ink Formulation	2983
9	Inorganic Chemicals Manufacture	281
10	Large Household Appliances and Parts Manufacture	3631-3633, 3639, 3431, 3469
11	Leather Tanning and Finishing	3111
12	Lubricant Manufacture	2911, 2992
13	Manufacture of Photographic Equipment and Supplies, Photographic Processing	7221, 7333, 7395, 7819
14	Metal Finishing	3411-62, 3465-71, 3482-3599, 3613-23, 3629, 3634-6, 3643-51, 3661-71, 3673, 3676-8, 3693-4, 3699, 3711-3841, 3851, 3873-999
15	Motor Vehicle Manufacture	3711, 3713
16	Organic Chemicals Manufacture	2865, 2869
17	Ore Mining and Dressing	101-109
18	Paint Formulation	2851
19	Paper and Paperboard Mills	2621, 2631, 2661
20	Paper Mills except Building Paper Mills	2621
21	Paper Board Mills	2631
22	Building Paper and Board Mills	2661
23	Pesticides Manufacture	2819, 2869, 2879
24	Petroleum Refining	2911
25	Plastic Products Manufacture	3079
26	Plastic Resins and Synthetic Fabrics	2821, 2823, 2824
27	POTWs (Industrial)	4952
28	POTWs (All Facilities)	4952
29	Primary Metal Forming Manufacture	3315-17, 3351-57, 3463, 3497
30	Printing	271-277
31	Pulp Mills	2611
32	Rubber Products Manufacture	3011, 3021, 3031, 3041
33	Soaps, Detergents, etc. Manufacture	2841-44
34	Steam Electric Power Plants	4911
35	Textile Dyeing and Finishing (Carpets)	2271-72, 2279
36	Textile Dyeing and Finishing (Knit Goods)	225, 2292
37	Textile Dyeing and Finishing (Wool Goods)	2231
38	Textile Dyeing and Finishing (Woven Goods)	2261-62, 2269
39	Textile Dyeing and Finishing (Knit, Wool, and Woven Goods)	2231, 2250, 2269, 2292
40	Yarn and Thread Mills	2281-84

Glossary of Useful Terms

7Q10 flow: Lowest 7-consecutive day average stream flow over a 10 year period (used to assess chronic risks to aquatic live).

Acute toxicity: Adverse effects on any living organism that results from a single dose or single exposure of a chemical; any poisonous effect produced within a short period of time, usually less than 96 hours.

ADD (Average daily dose): The estimate of dose averaged over the number of years of use/exposure to the chemical; used in assessments of risk of non-cancer chronic health effects.

APDR (Acute potential dose rate): The estimated dose on a given day; used in assessments of the risk of acute toxic effects.

BCF: Bioconcentration factor (BCF) is the ratio (in L/kg) of a chemical's concentration in the tissue of an aquatic organism to its concentration in the ambient water. BCF indicates the potential for the chemical to concentrate in lipids (fats) of organisms.

Bioaccumulation: Process in which lipid soluble chemicals are stored in fatty tissue (lipids) of organisms and can increase in concentration over time.

Bioassay: Testing method that measures the effects of a material on living organisms.

Bioconcentration: Bioaccumulation of lipid soluble chemicals in fatty tissues (lipids) of organisms at concentrations higher than that of the surrounding water.

Biodegradable: Ability of a substance to be broken down physically and/or chemically by microorganisms.

Biomagnification: Process in which lipid soluble substances increase in fatty tissues (lipids) of organisms higher in the food web as contaminated food species are consumed.

Carcinogen(ic): Ability of a substance to cause cancer.

Chemical Abstract Service (CAS): Organization which assigns unique numbers to chemical substances submitted to them. CAS Registry Numbers are the unique identifier for a chemical substance, while chemical names may not be unique.

Chemical class: The general chemical group to which a chemical belongs (e.g., acid, base, hydrocarbon, etc.).

Chronic Toxicity: Adverse effects on any living organism in which symptoms develop slowly over a period of time (often the life time of the organism) or reoccur frequently.

Concern concentration (CC) or Concentration of Concern (COC): Reported in parts per billion (ppb) or parts per million (ppm), provides the concentration of a chemical in a stream and indicates the concentration at which harm is more likely to occur to aquatic organisms. CC is determined by dividing the lowest chronic toxicity value by 10.

Direct discharge: Under NPDES permitting, the discharge of chemicals or compounds directly to a surface water body.

Dose: In terms of monitoring exposure levels, the amount of a toxic substance taken into the body over a given period of time.

Dose Response: The manner in which an organism's response to a toxic substance changes as its overall exposure to the substance changes.

EC50 (Effective Concentration 50): Median effective concentration is the concentration of a pollutant at which 50% of the test organisms die; a common measure of acute toxicity.

Glossary of Useful Terms (continued)

Effluent: The stream flowing out of a facility or water body. The concentrations in it's flow are used to estimate potential health effects of the discharge.

Exposure: Pollutants that come in contact with the body and present a potential health threat, via inhalation, ingestion, or dermal routes. The route, magnitude, and duration of exposure contributes to the ultimate risk for the organism.

Half-life: Time required for one-half of a chemical or compound to degrade.

Harmonic mean: The number of daily flow measurements divided by the sum of the reciprocals of the flows. A value that is more conservative than the arithmetic mean flow value. Used to assess chronic risks to humans.

Hazard: Potential for a substance to cause adverse effects to organisms, for example birth defects.

High end: A plausible estimate of an individual exposure or dose for those persons at the upper end of an exposure or dose distribution, above the 90th percentile, but no higher than the individual in the population who has the highest exposure.

Hydrophilic: Having an affinity for, or capable of dissolving in, water.

Influent: Stream flowing into a facility or water body.

Indirect discharge: Under NPDES permitting, unlike a direct discharger, an indirect discharger from a nonresidential source pumps effluent to another facility that has a permit to discharge to the stream. Indirect dischargers often pretreat their discharges prior to pumping them to the publicly owned treatment works.

KOC: Organic carbon partition coefficient - the ratio of amount of a chemical adsorbed per unit weight of organic carbon to the chemical concentration in solution at equilibrium Is an indication of how the chemical will partition itself between the solid and solution phases of a water-saturated or unsaturated soil.

KOW: Octanol-water partition coefficient - the ratio of a chemical's concentration in the octanol phase to it's concentration in the aqueous phase of a two-phase octanol/water system.

LADD (Lifetime average daily dose): The estimated dose to an individual averaged over a lifetime of 70 years; used in assessments of *carcinogenic* risk.

LC50 (Lethal Concentration 50): Median lethal concentration is the concentration of a pollutant at which 50% of the test organisms die; a common measure of acute toxicity.

LD50 (Lethal Dose 50): The dose of a toxicant that will kill 50% of test organisms within a designated period of time. The lower the LD50, the more toxic the compound.

Lipophilic: Having an affinity for, or capable of dissolving in, fat and fatty materials.

Loading: The amount of chemical that is discharged to a stream after treatment, reported in kg/day.

Milligrams/liter (mg/L): A measure of concentration used in the measurement of fluids that is roughly equivalent to parts per million.

Moiety(ies): Compounds formed when a larger compound is subdivided.

MSDS (Material Safety Data Sheet): Printed material concerning a hazardous chemical including its physical properties, hazards to personnel, fire and explosive potential safe handling and transportation recommendations, health effects, reactivity, and proper disposal. Originally established for employee safety by OSHA.

Mutagenicity: The property of a chemical to cause genetic mutations that are expressed in the next generation but not necessarily in the organism exposed to the mutagen.

Glossary of Useful Terms (continued)

No Observed Adverse Effect Level (NOAEL) or No Observed Effect Level (NOEL): Level of exposure which does not cause observable harm.

NPDES (National Pollutant Discharge Elimination System): is the primary permitting program under the Clean Water Act which requires that dischargers of chemicals to surface waters obtain a permit from EPA. A NPDES permit number is a nine-character number with the two letter State abbreviation beginning the number (e.g., NC0001234).

Parts per billion (ppb): One ppb is comparable to one kernel of corn in a filled, 45-fool silo, 16 feet in diameter.

Parts per million(ppm): One ppm is comparable to one drop in the gasoline tank of a full-size car.

Parts per trillion (ppt): One ppt is comparable to one drop in a swimming pool the size of a football field and 43 feet deep.

Permissible Exposure Limit (PEL): Workplace exposure limits for contaminants established by OSHA.

Point Source: A stationary location or fixed facility such as an industry or municipality that discharges pollutants into air or surface water.

Pollution: Any substances in environmental media that degrade the natural quality of the environment.

Pollution Prevention (P2): The concept stating that it is easier to prevent pollution than to clean up pollution after it has occurred.

Potential Dose Rate(s) PDR(s): Provide an estimate of possible exposure rate to receptor from expected use, usually derived by modeling using default exposure factors.

POTW (Publicly Owned Treatment Works): A municipal or public service district sewage treatment system.

Reach: A reach is a stream or river segment identified by EPA and assigned an 11-digit ID number. The first two numbers indicate the hydrologic region of the United States in which the reach is located.

Reference Dose (RfD): The concentration of a chemical that is known to cause health problems.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of a hazardous or toxic chemical.

Risk: A measure of the chance that damage to life, health, property, or the environment will occur.

Risk Assessment: A process to determine the increased risk from exposure to environmental pollutants together with an estimate of the severity of impact. Risk assessments use specific chemical information plus risk factors.

SARs: Structure Activity Relationship (SAR) predict the toxicity of chemicals based on their structural similarity to chemicals for which toxicity data are available. SARs express the correlations between a compound's physicochemical properties and its toxicity. SARs measured for one compound can be used to predict the toxicity of similar compounds belonging to the same chemical class. EPA routinely uses to estimate toxicity of chemicals submitted as Pre-Manufacture Notices mandated by Section 5 of the Toxic Substances Control Act (TSCA).

SIC Code: Standard Industrial Classification Code system is a four digit number that identifies the specific industrial activity. For a complete listing of SIC codes, see Standard Industrial Classification Manual. 1987. Supt. of Documents, U.S. Government Printing Office, Washington, DC.

Toxicity Testing: Biological testing (usually with an invertebrate, fish, or small mammal) to determine the adverse effects, if any, of a chemical substance.

APPENDIX A

Case Studies

Case Study A - **Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility**
Uses the Models ECOSAR and the E-FAST General Population Exposure from Industrial Releases Module

Case Study B - **Consumer Dermal Exposure**
Uses the E-FAST Consumer Exposure Pathway (CEM) Module

Case Study C – **Workplace Releases and Exposures**
Uses ChemSTEER - the Chemical Screening Tool for Exposures and Environmental Releases

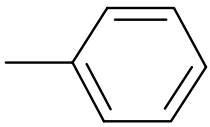
CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Introduction

The purpose of this case study is to determine the aquatic toxicity of Chemical A and to assess potential aquatic impacts and human exposures that may occur as a result of *effluent* discharges from the manufacturing facility (Company ABCDE) in Smalltown, New York. The following models will be used to accomplish this task: ECOSAR and E-FAST: General Population Exposure from Industrial Releases module.

- ECOSAR will be used first to estimate a *concern concentration* for the chemical.
- E-FAST will then be used to estimate the surface water concentration and the likelihood of potential impacts.

Chemical A (structure at right) is a compound in the neutral organic chemical class. No significant aquatic toxicity testing has been done on Chemical A.



Step 1. Toxicity Determination

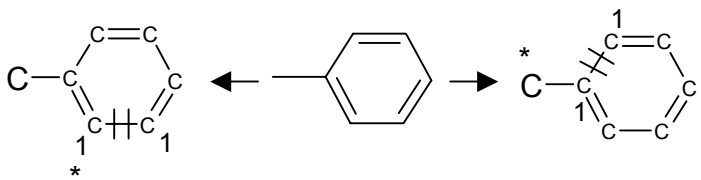
Because no aquatic toxicity data are available for Chemical A, ECOSAR will be used to predict its aquatic toxicity based on structural similarities to other neutral organic chemicals. The following physical/chemical properties will be assumed for Chemical A that are inputs to run the ECOSAR and E-FAST models:

- measured water solubility = 573.1 *mg/L*;
- melting point = 25^{o} C;
- log *KOW* = 2.540 (ClogP);
- measured log *KOW* = 2.730; and
- fish *BCF* = 175 (not log BCF).

Running ECOSAR

Since you have no *CAS Number* for Chemical A, you will need to write SMILES notation to run ECOSAR. For help in writing SMILES see Appendix C or the Help screen in ECOSAR. There are many correct ways to write SMILES for a given chemical. Two examples are given below. Start the SMILES string at the "*".

Example 1 Chemical A Example 2

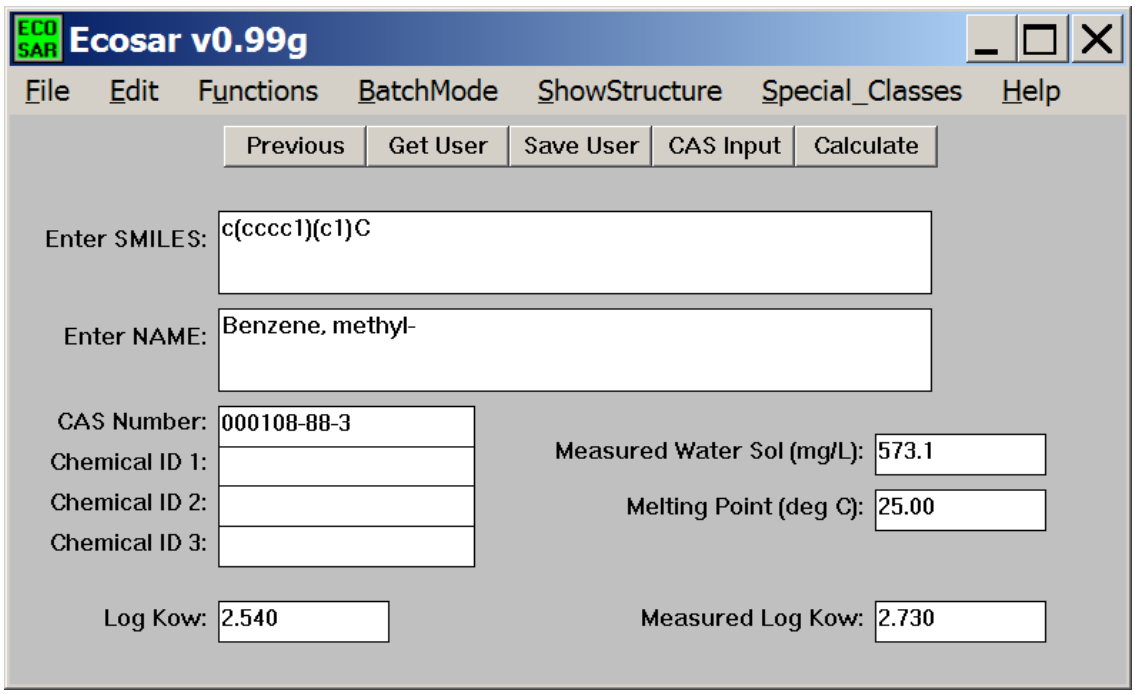


Example 1 SMILES = c1c(C)cccc1 Example 2 SMILES = Cc1ccccc1

Open ECOSAR and select "All Others" Chemicals group. Enter measured data and SMILES notation (Figure A1), then click on Calculate button. Figure A2 presents the results of running the model.

CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Figure A1
ECOSAR Data Entry Screen




```
SMILES : c(cccc1)(c1)C
CHEM   : Benzene, methyl-
CAS Num: 000108-88-3
ChemID1:
ChemID2:
ChemID3:
MOL FOR: C7 H8
MOL WT : 92.14
Log Kow: 2.54  (User entered)
Melt Pt: 25.00 deg C
Wat Sol: 573.1 mg/L  (measured)

ECOSAR v0.99g Class(es) Found
Neutral Organics

                                                        Predicted
ECOSAR Class          Organism        Duration  End Pt   mg/L (ppm)
====================  ==============  ========  ======   ==========
Neutral Organic SAR   : Fish          14-day    LC50       41.891
(Baseline Toxicity)

Neutral Organics      : Fish          96-hr     LC50       21.225
Neutral Organics      : Fish          14-day    LC50       41.891
Neutral Organics      : Daphnid       48-hr     LC50       23.608
Neutral Organics      : Green Algae   96-hr     EC50       15.225
Neutral Organics      : Fish          30-day    ChV         2.983
Neutral Organics      : Daphnid       16-day    EC50        1.533
Neutral Organics      : Green Algae   96-hr     ChV         2.080
Neutral Organics      : Fish  (SW)    96-hr     LC50        6.313
Neutral Organics      : Mysid Shrimp  96-hr     LC50        4.163
                                                        mg/kg (ppm)
                                                        dry wt soil
                                                        ===========
Neutral Organics      : Earthworm     14-day    LC50      386.488

Note* = asterick designates: Chemical may not be soluble
        enough to measure this predicted effect.
        Fish and daphnid acute toxicity log Kow cutoff: 5.0
        Green algal EC50 toxicity log Kow cutoff: 6.4
        Chronic toxicity log Kow cutoff: 8.0
        MW cutoff: 1000
```

Inputs:
- **SMILES**
- **Chemical Name**
- **Data**

Log Kow (ClogP)	2.540
Meas. WS	573.1
Meas. MP	25.0
Meas. Log Kow	2.730

Figure A2
Results of Running ECOSAR

CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Figure A2
Results of Running ECOSAR

Inputs:

SMILES	
Chemical Name	
Log Kow (ClogP)	2.540
Meas. WS	573.1
Melting Pt	25.0
Meas. Log Kow	2.730

```
SMILES : c(cccc1)(c1)C
CHEM   : Benzene, methyl-
CAS Num: 000108-88-3
ChemID1:
ChemID2:
ChemID3:
MOL FOR: C7 H8
MOL WT : 92.14
Log Kow: 2.54  (User entered)
Melt Pt: 25.00 deg C
Wat Sol: 573.1 mg/L  (measured)

ECOSAR v0.99g Class(es) Found
Neutral Organics

                                                          Predicted
ECOSAR Class          Organism        Duration  End Pt    mg/L (ppm)
====================  ==============  ========  ======    ==========
Neutral Organic SAR   : Fish          14-day    LC50        41.891
(Baseline Toxicity)

Neutral Organics      : Fish          96-hr     LC50        21.225
Neutral Organics      : Fish          14-day    LC50        41.891
Neutral Organics      : Daphnid       48-hr     LC50        23.608
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Neutral Organics      : Fish          30-day    ChV          2.983
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Neutral Organics      : Mysid Shrimp  96-hr     LC50         4.163
                                                          mg/kg (ppm)
                                                          dry wt soil
                                                          ===========
Neutral Organics      : Earthworm     14-day    LC50       386.488

Note* = asterick designates: Chemical may not be soluble
        enough to measure this predicted effect.
        Fish and daphnid acute toxicity log Kow cutoff: 5.0
        Green algal EC50 toxicity log Kow cutoff: 6.4
        Chronic toxicity log Kow cutoff: 8.0
        MW cutoff: 1000
```

Note: The standard toxicity profile used by EPA for freshwater species is:

Acute Effects:	Fish	96-hr LC50 (mg/L)
	Daphnid	48-hr LC50
	Green algal	96-hr EC50
Chronic Effects:	Fish	ChV
	Daphnid	ChV or 16d EC50
	Green algal	ChV

Chemical A Aquatic Toxicity Profile is:

			mg/L
Acute Effects:	Fish	96-hr LC50	22.0
	Daphnid	48-hr LC50	24.0
	Green algal	96-hr EC50	15.0
Chronic Effects:	Fish	ChV	3.0
	Daphnid	ChV	1.5
	Green algal	ChV	2.0

CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Determine Concern Concentration

The next step is translating the predicted endpoints into a freshwater (FW) concern concentration (CC). The following equation is used to calculate the FW CC. The lowest chronic value, the predicted endpoint for Daphnid (1.5 mg/L or ppm), was used. An uncertainty factor (assessment or safety factor) is 10 was used to account for the uncertainty of laboratory to field variation, and as a margin of safety.

(Predicted Endpoint x 1,000 conversion from ppm to ppb) / safety factor
(1.5 ppm x 1,000) / 10 = 150 ppb, rounded up to 200 ppb.*

*Note: The CC is rounded up to one significant digit to be conservative, and because the safety factor is one significant digit.

Step 2. Estimation Of Surface Water Concentrations

Now that a freshwater CC for Chemical A (200 ppb) has been established, the site-specific release can be evaluated. Assume the following:

- Company ABCDE will discharge 200 kg/day of Chemical A for 300 days per year; and
- There will be 50 percent removal of Chemical A in wastewater treatment.
- The fish BCF value predicted by EPI Suite™ is 175 (not the log BCF)

After talking to Company representatives, the assessor has determined that:

- Company ABCDE discharges to the Little Genesee Creek;
- The NPDES Number is NY0022381.

Using this information the assessor can use the E-FAST model to calculate: the concentration of Chemical A in the Little Genesee Creek; the potential drinking water exposures; and the potential fish ingestion exposure and the potential risk to the aquatic environment.

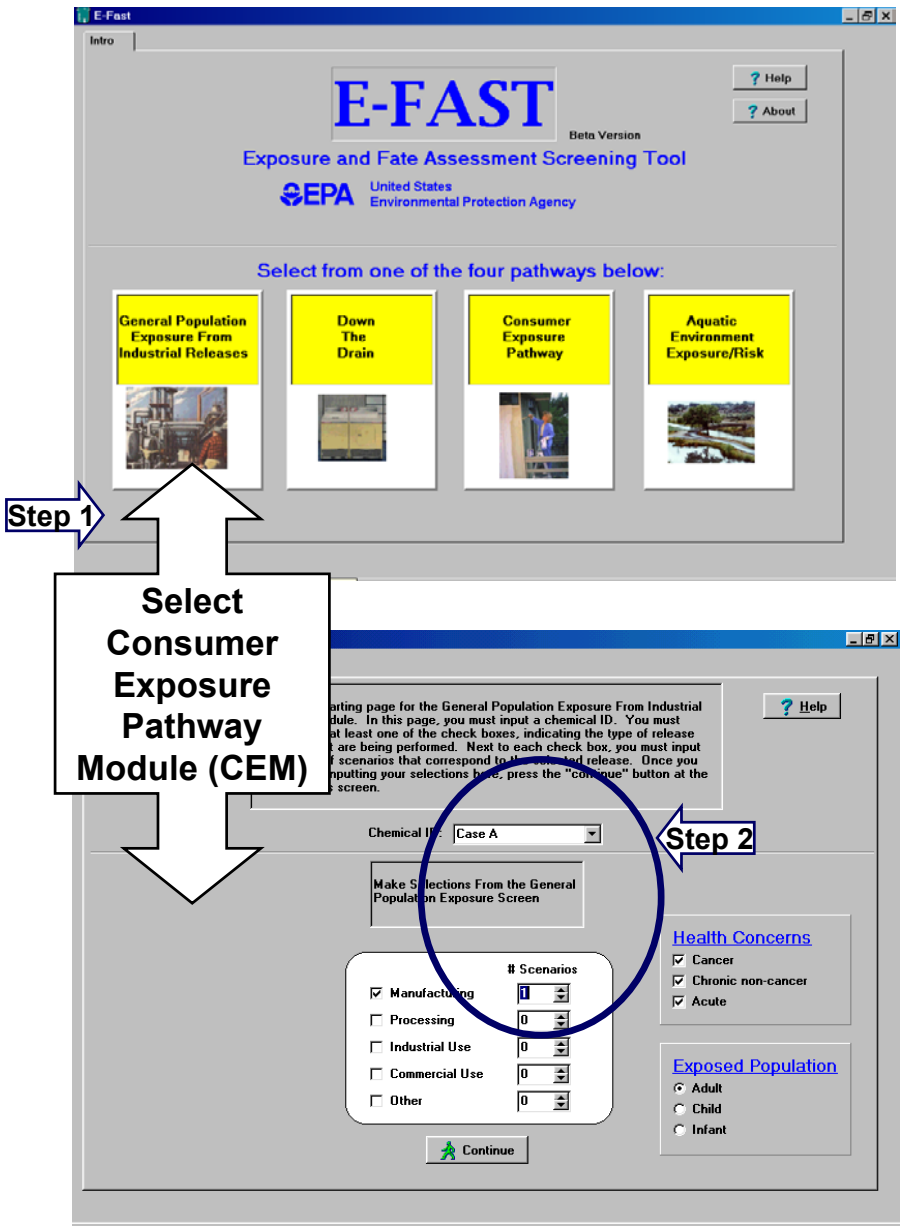
CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Run the E-FAST General Population Exposure Module

The following is a step-by-step description of how to run the CEM module.

Once you have entered the E-FAST model:

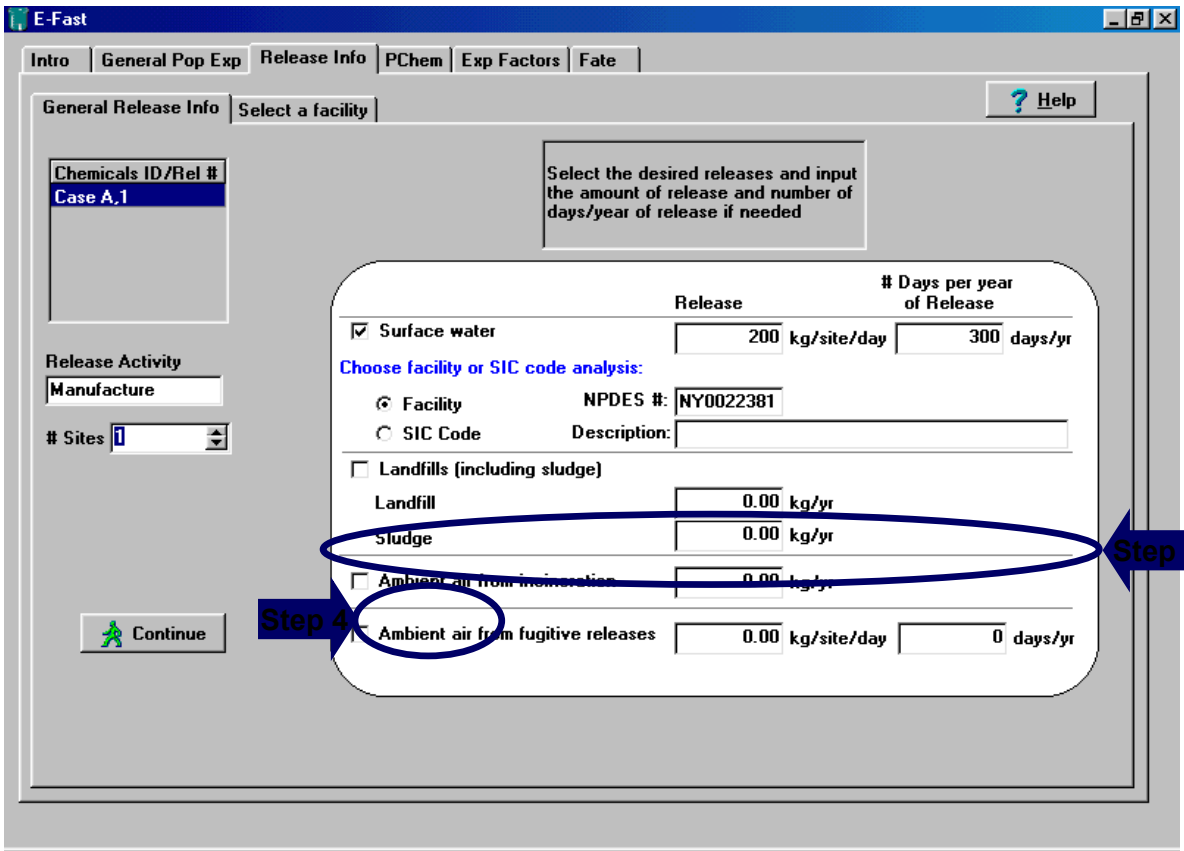
1. Select: General Population Exposure Module;
2. Enter the chemical identification “Case A”, and select 1 Manufacturing Scenario, then click on Continue button.



CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Run the E-FAST General Population Exposure Module (continued)

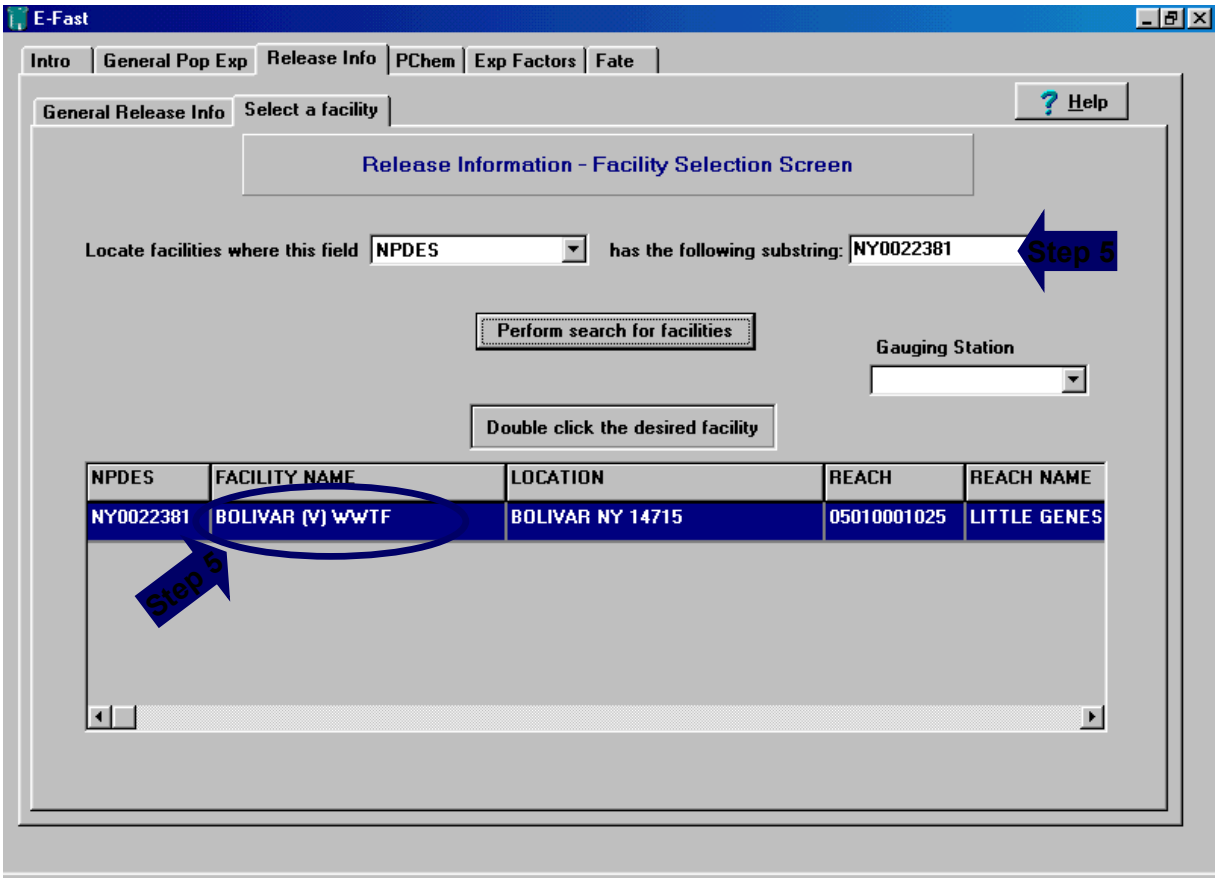
3. You automatically go to the Release Info page. Put a check in the Surface Water box and add Release Amount (200 kg/site/day) and Release Days per Year (300 days/yr)
4. Click on Facility button. You go to the Select a Facility screen.



CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

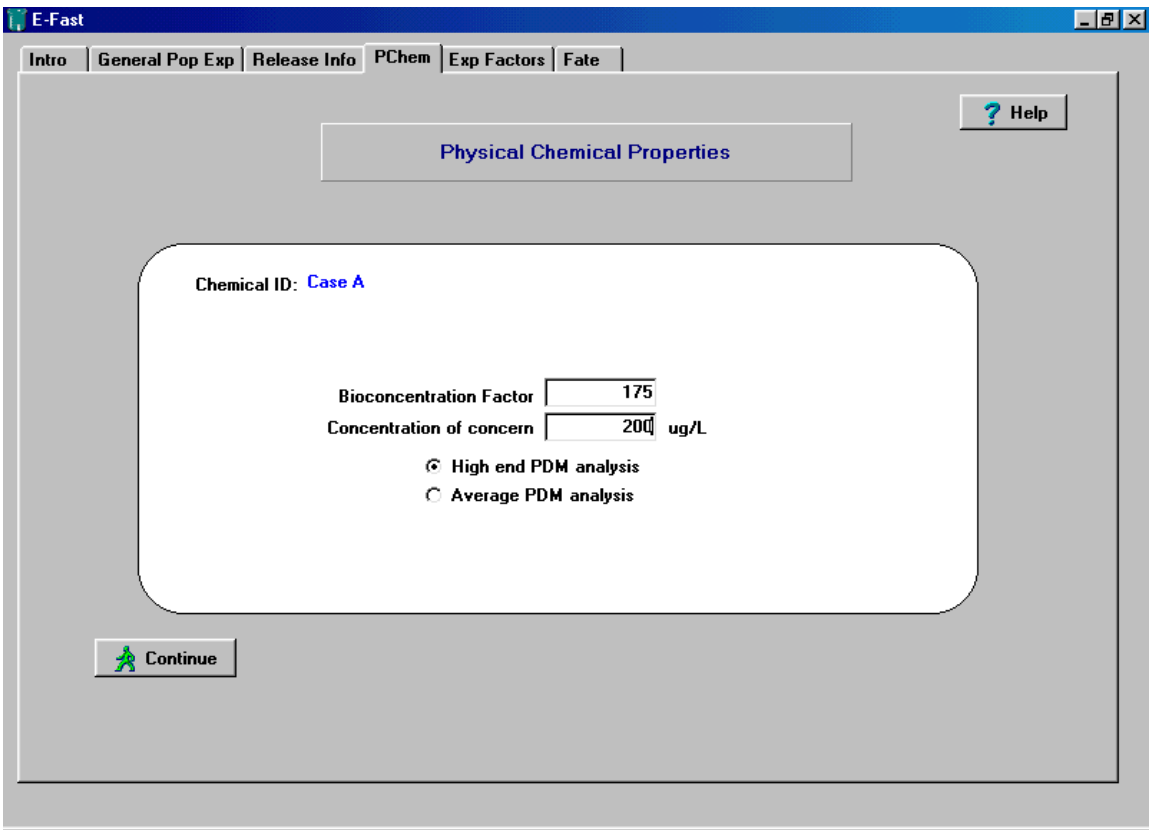
Run the E-FAST General Population Exposure Module (continued)

5. In the Select a Facility screen, type the *NPDES* number (NY0022381) in the proper box. Click on Perform Search for Facility Button. When the search finds the facility, Double click the facility name. Click on Continue button.



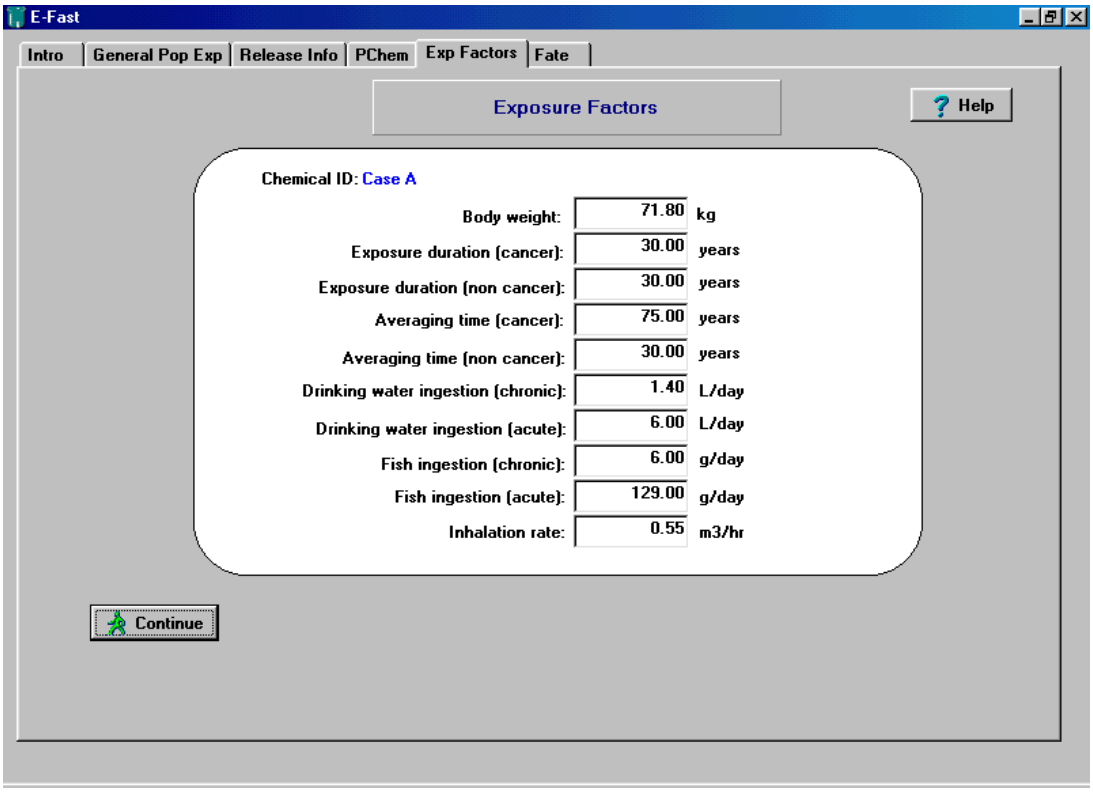
Run the E-FAST General Population Exposure Module (continued)

6. You are sent to the Physical Chemical Properties screen, and you should enter the *BCF* (175) and *Concern Concentration* (200 ppb or µg/L). Click on Continue button.



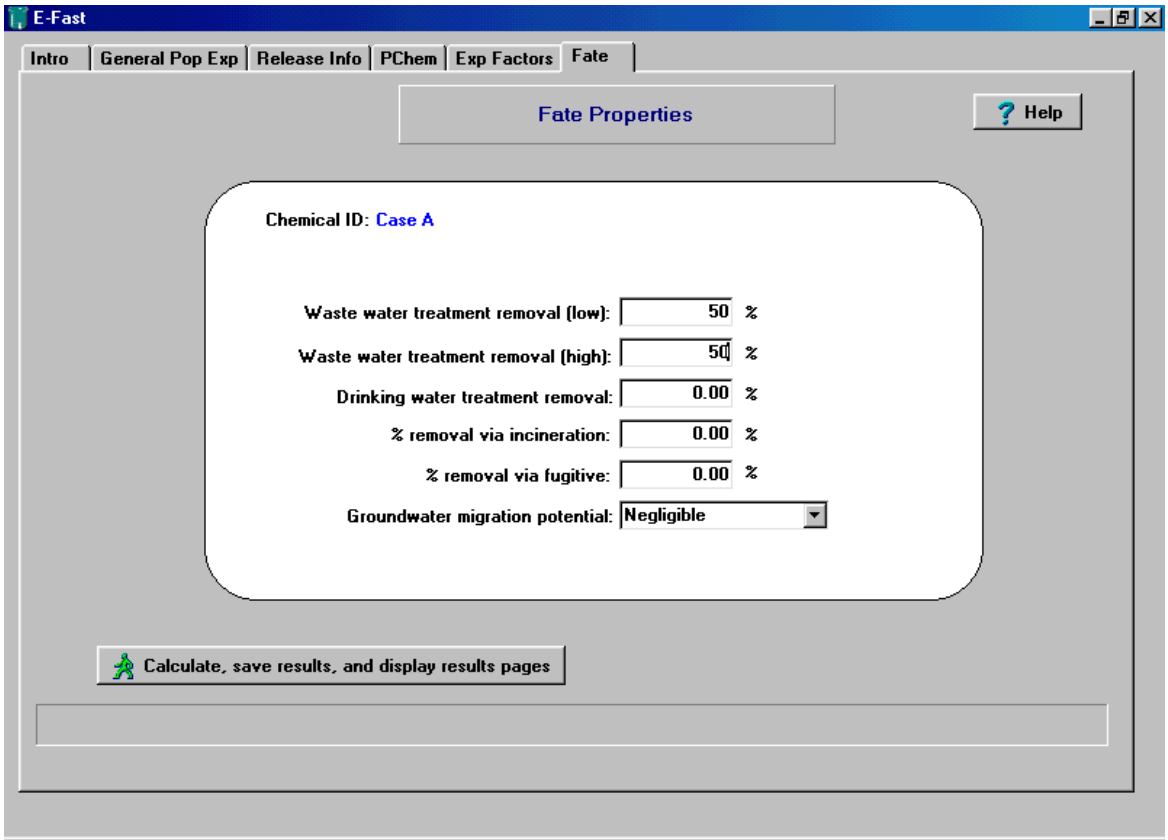
Run the E-FAST General Population Exposure Module (continued)

7. You are sent to the Exposure Factors Screen where you can review the defaults values. Any of these can be adjusted as necessary. Click on Continue button.



Run the E-FAST General Population Exposure Module (continued)

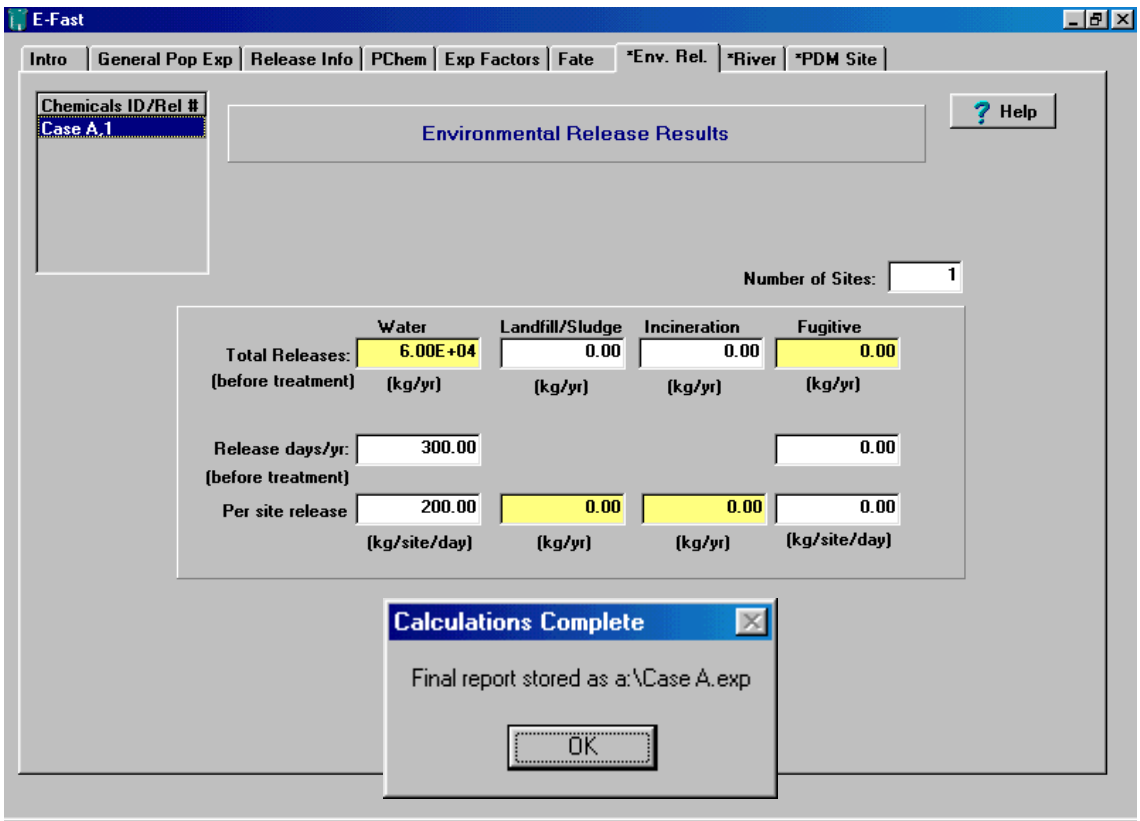
8. You are sent to the Fate Properties Screen where you will enter the percent removal in wastewater treatment (enter 50% for both high and low). Click on Calculate, Save Results, and Display Results button.



CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Run the E-FAST General Population Exposure Module (continued)

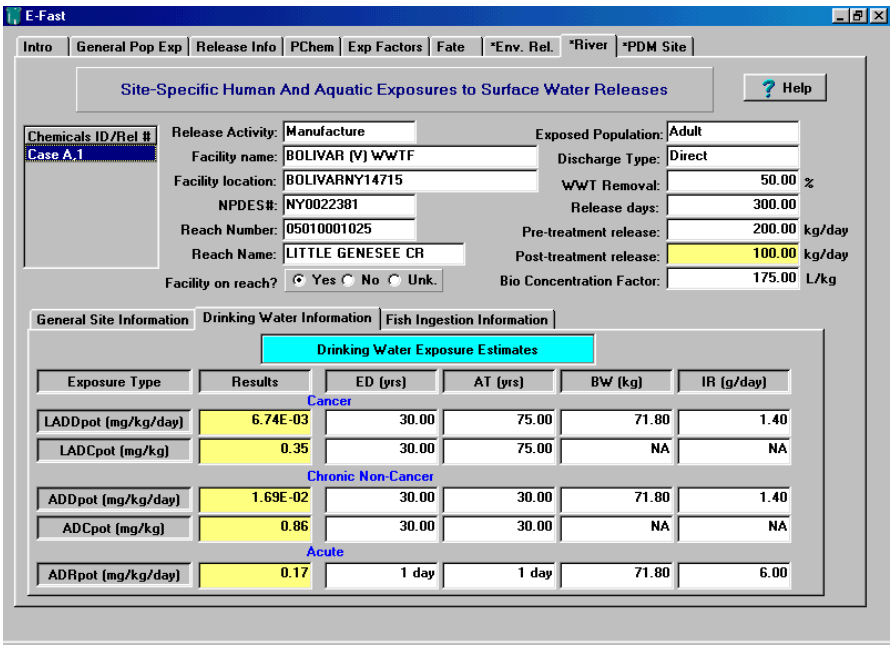
9. Environmental Release Results are calculated and you get a message saying the file is saved to the A:\ drive. Click on OK. Click on River tab.

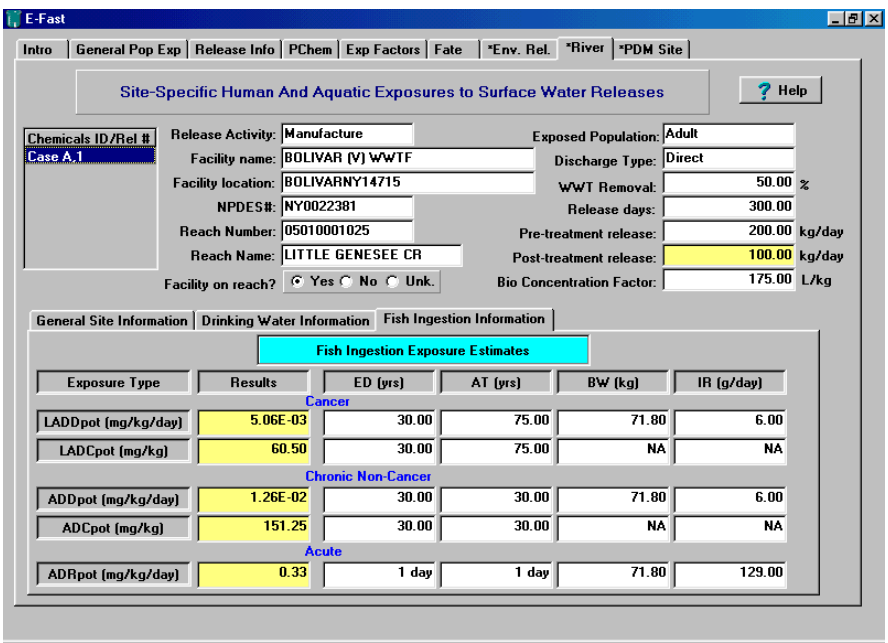


CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Run the E-FAST General Population Exposure Module (continued)

10. Site-Specific Human and Aquatic Exposures to Surface Water Releases - Drinking Water Exposure Estimates Results are displayed. You can click on Fish Ingestion Information to view those exposure estimates.

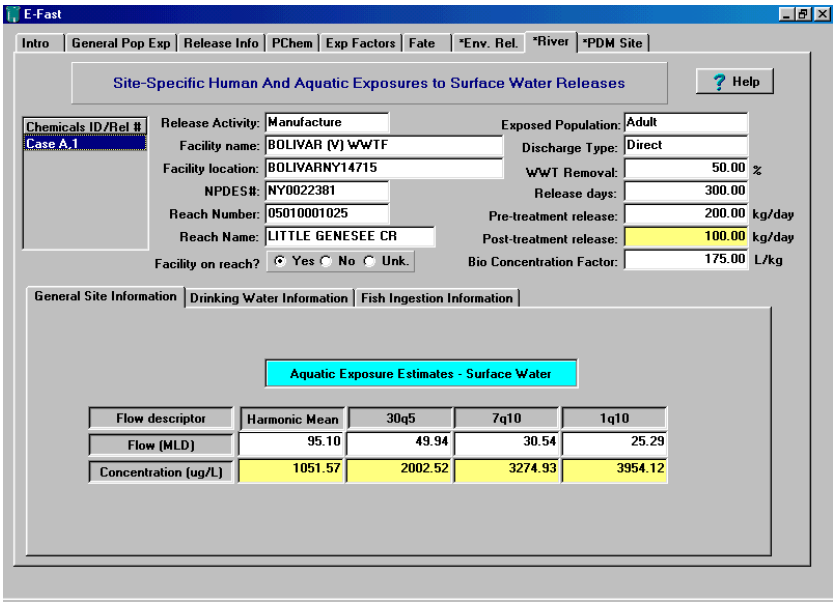


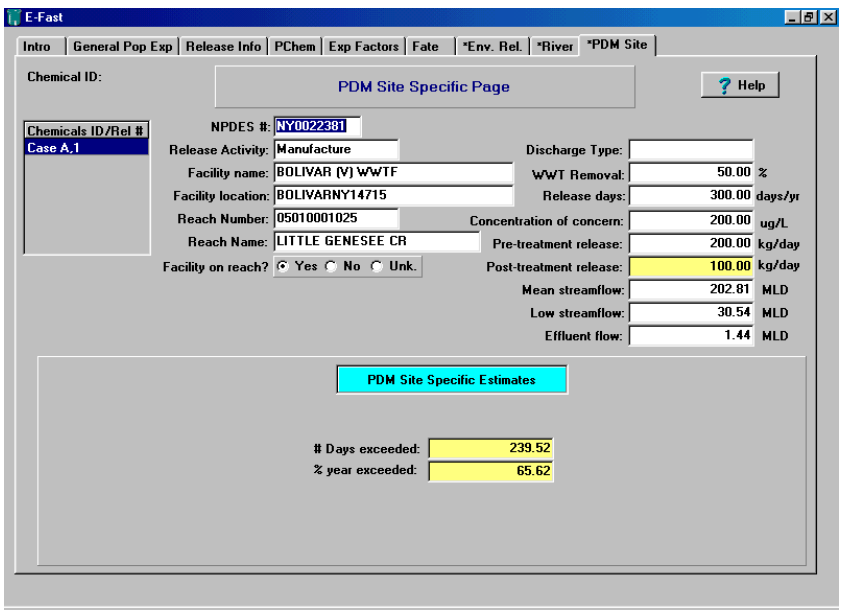


CASE STUDY A: Potential Aquatic and Human Exposures to Surface Water Discharges from a Manufacturing Facility

Run the E-FAST General Population Exposure Module (continued)

11. Click on General Site Information to view Aquatic Exposure Estimates. Click on PDM Site tab to view PDM Site-Specific Aquatic Exposure estimates. Congratulations! You have your results. The *CC* will be exceeded **240 days per year**.





Case Study B

Consumer Dermal Exposure

Uses the E-FAST
Consumer Exposure Pathway (CEM) Module

Case Study B: Consumer Exposure from Dermal Contact

Introduction

The purpose of this case study is to assess consumer exposure that may result from dermal contact with a proposed new additive to a consumer product. The Brown Manufacturing Corporation (BMC) is considering using Chemical C as a colorant in a new bar soap product. The BMC risk assessor must estimate potential consumer exposure to Chemical C before BMC product developers can make the decision to proceed with the new formulation. The assessor will use the E-FAST Consumer Exposure Module (CEM) to predict a Potential Lifetime Average Daily Dose (LADD) Rate, a Potential Average Daily Dose (ADD) Rate, and an Acute Potential Dose Rate (APDR) for a consumer from dermal contact with Chemical C in the soap product through hand and body washes.

The BMC risk assessor knows the following information about the proposed product and candidate Chemical C:

- Weight fraction of Chemical C in the final soap product will be 0.0025 - 0.0075 (percent by weight) (median = 0.005); and
- The chronic oral RfD for an adult (70 kg average body weight) for Chemical C is 0.02 mg/kg-day.

Estimation Of APDR, ADD and LADD Using CEM

Enter E-FAST (Figure C1). Proceed with the following steps:

1. Select Consumer Exposure Pathway Module (Figure C2);
2. Select Begin New CEM Run (Figure C2);
3. In the CEM Introduction Screen, enter Chemical Identification Information (Figure C3);
4. Click on the Scenario Tab (Figure C3);
5. Choose Bar Soap (Figure C4);
6. Click on Dermal Inputs Tab and view preset defaults (Figure C5). Any of these defaults can be overridden if necessary.
7. Click on Chemical Properties Tab and enter weight fraction information (Figure C6).
   - Median = 0.005
   - High end (90th%) = 0.0075;
8. Select Run the model (Figure C6).
9. Results are displayed. Click on Outputs-Dermal (Figure C6). Results can be saved in a WP file or printed.

Case Study B: Consumer Exposure from Dermal Contact

CEM Model Results

After running the CEM model, the BMC risk assessor obtained the following predicted exposure results (see Figure C6):

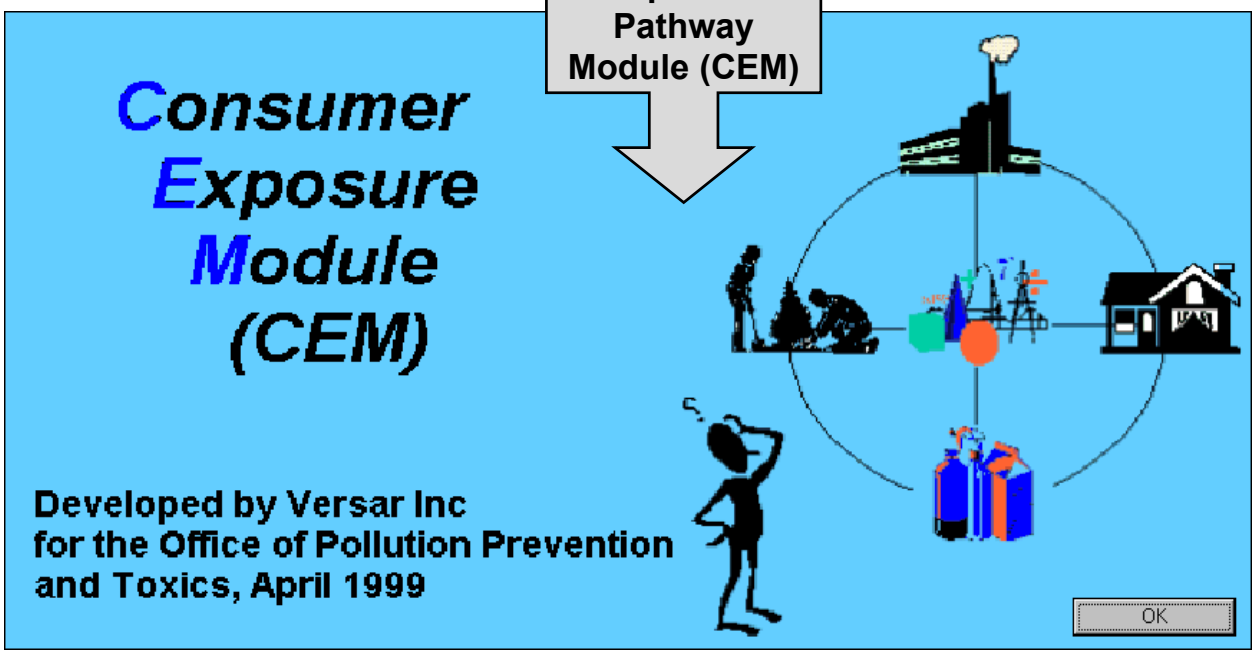
LADD	=	2.71e-03 mg/kg-day
ADD	=	2.75e-03 mg/kg-day
APDR	=	4.52e-03 mg/kg-day

In-house studies have demonstrated that the **dermal absorption fraction** of Chemical C is 10 to 20 percent of the applied dose. Using the more conservative value of 20 percent absorption, the assessor will adjust the predicted ADPR 4.52e-03 mg/kg-day to obtain a predicted absorbed adult dose of 8.984e-04 mg/kg-day. This is below the reported adult chronic oral RfD for Chemical C of 2.00e-02 mg/kg-day. The assessor will report to product developers that the amount of Chemical C in the soap formulation will not exceed the chronic oral RfD for Chemical C.

Case Study B: Consumer Exposure from Dermal Contact

Figure C1
E-FAST Opening Screen

Select Consumer Exposure Pathway Module (CEM)



Case Study B: Consumer Exposure from Dermal Contact

Figure C2
CEM Opening Screen

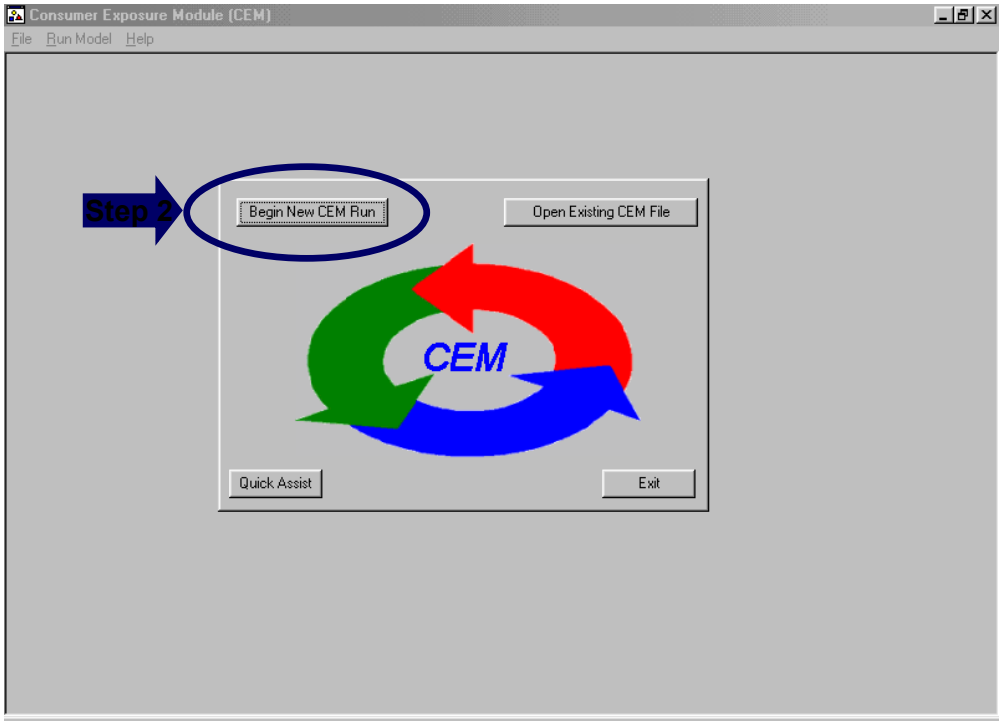
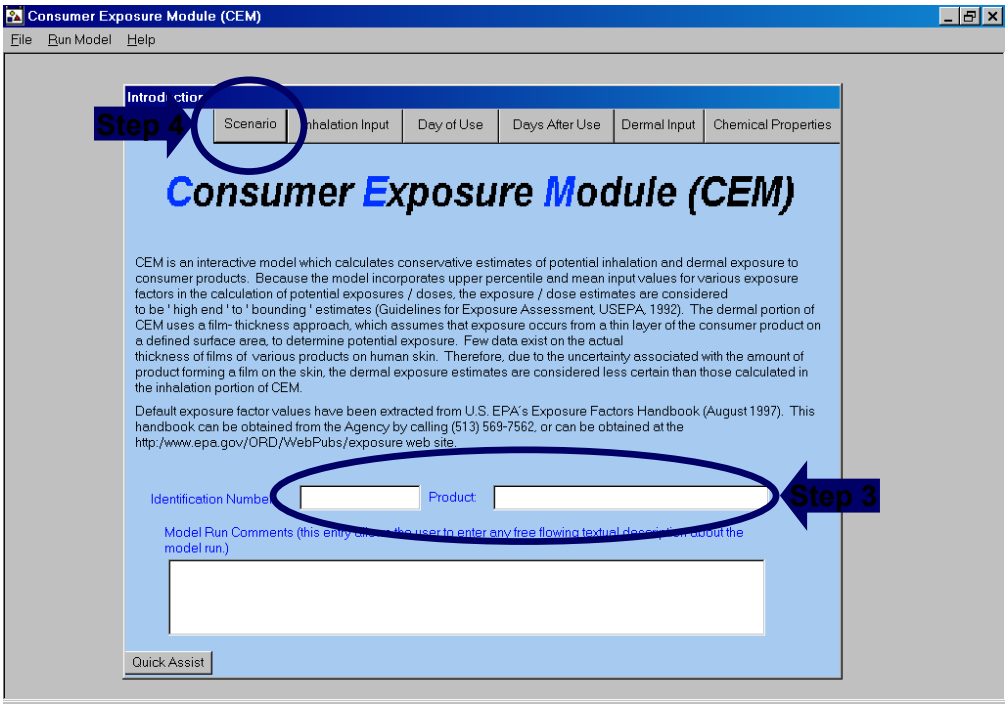


Figure C3
CEM Introduction Screen



Case Study B: Consumer Exposure from Dermal Contact

Figure C4
Dermal Scenario Selection Screen

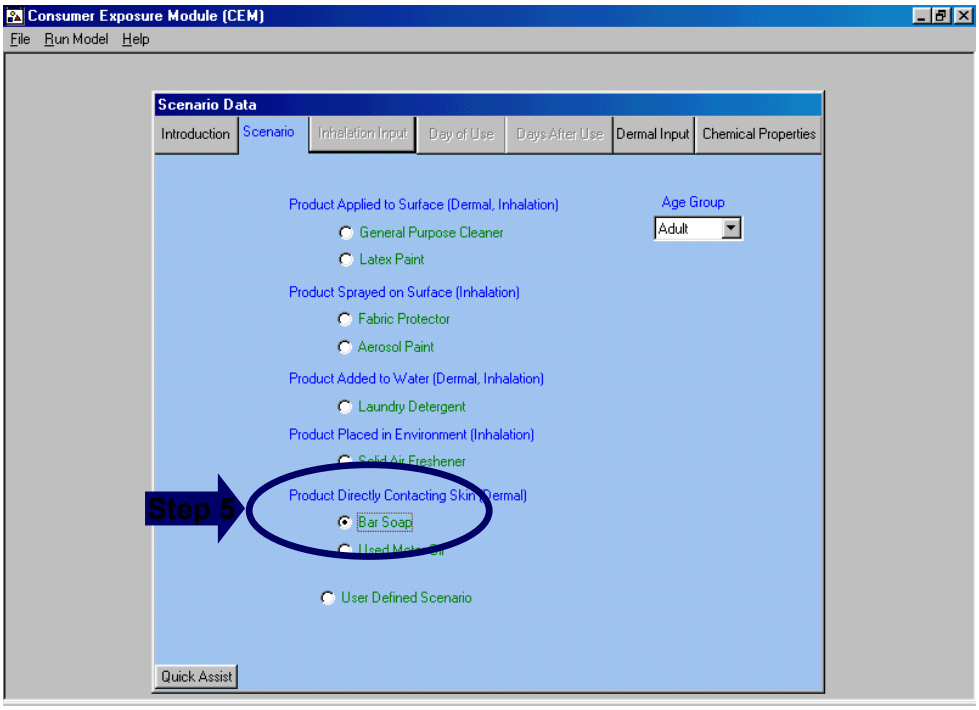
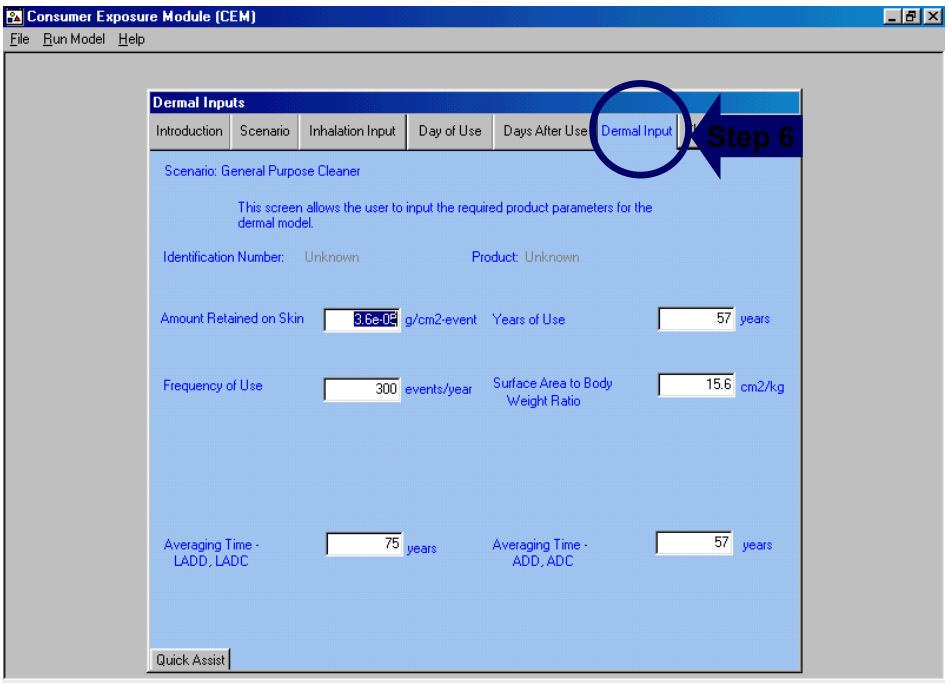
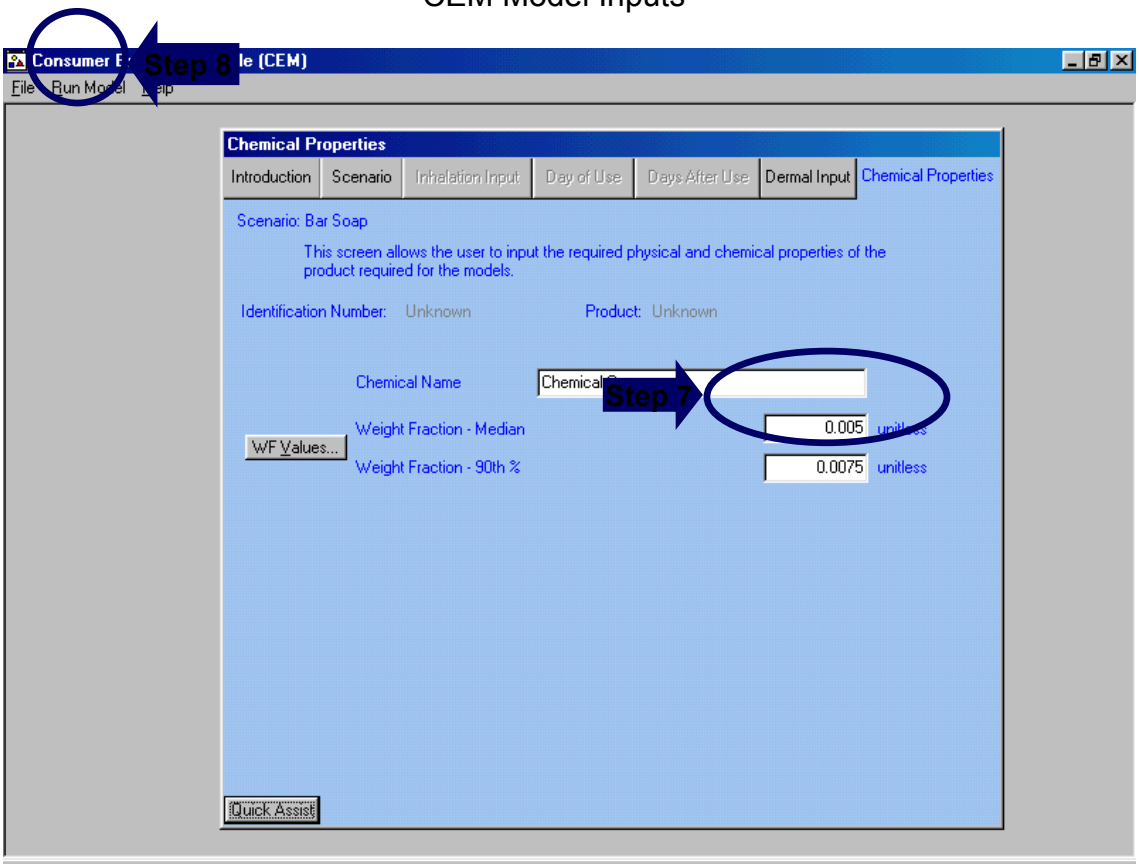


Figure C5
Dermal Scenario Input Screen



Case Study B: Consumer Exposure from Dermal Contact

Figure C6
CEM Model Inputs



Case Study B: Consumer Exposure from Dermal Contact

Figure C6
CEM Model Results